



UNITED STATES DEPARTMENT OF COMMERCE
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NOTICE OF ALLOWANCE AND ISSUE FEE DUE

QM01/0827

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APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/023,794	02/13/98	001	LOPEZ, F	3745 08/27/99
First Named Applicant	HUNG, 35 USC 154(b) term ext. = 0 Days.			

TITLE OF INVENTION SHUTTLE VALVE OF A RECIPROCATING PNEUMATIC MOTOR FOR HYDRAULICS

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
3	518/K16-106	091-229.000	A67	UTILITY	YES \$605.00	11/29/99

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PATENT AND TRADEMARK OFFICE COPY

Notice of Allowability

Application No.
09/023,794

Applicant(s)
Hung

Examiner
F. Daniel Lopez

Group Art Unit
3745



All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

☐ This communication is responsive to _____.

☒ The allowed claim(s) is/are 1.

☒ The drawings filed on 13 Feb 1999 are acceptable.

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE **THREE MONTHS** FROM THE "DATE MAILED" of this Office action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.

☐ Applicant MUST submit NEW FORMAL DRAWINGS

☐ because the originally filed drawings were declared by applicant to be informal.

☐ including changes required by the Notice of Draftsperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. _____.

☐ including changes required by the proposed drawing correction filed on _____, which has been approved by the examiner.

☐ including changes required by the attached Examiner's Amendment/Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any response to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

☐ Interview Summary, PTO-413

☒ Examiner's Amendment/Comment

☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

☒ Examiner's Statement of Reasons for Allowance

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EXAMINER'S AMENDMENT

An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

The specification has been amended as follows:

on page 4 line ~~17~~ --front air chamber A-- has replaced "shuttle compression chamber 47"; and
on page 4 line ~~17~~¹⁸ --an air vent hole 45-- has replaced "-a radial air inlet hole 44".

The claims has been amended as follows:

in claim 1 line ~~3~~ --a passage between a front air chamber and an air vent hole-- has replaced "the passage between a shuttle compression chamber and a radial air inlet"; and
in claim 1 line ~~9~~ --another-- has replaced "one".

The above changes to the specification and claim correct typographical and antecedent basis errors.

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REASONS FOR ALLOWANCE

The following is an Examiner's Statement of Reasons for Allowance: the combination of elements as claimed is deemed to be directed to an unobvious improvement over the prior art as shown by Landrum et al and Cowans. Landrum et al discloses a shuttle valve (60) mounted between a pneumatic piston (45) and a ring plate (63) in a reciprocating pneumatic motor, to control a passage in the piston, between a front air chamber and an air vent hole (65); the shuttle valve including a gasket ring (61) and an oil seal (in 62) around a valve body at opposite ends of the valve body; and a compression spring (90) biasing the valve body to close the passage when the piston is near one end of its travel. Cowans teaches, for a gas driven motor (e.g. fig 6) including a shuttle valve (101) mounted in a piston (93) to control a passage (96) in the piston, and a compression spring (112) biasing the valve body to close the passage when the piston is near one end of its travel; that the compression spring is mounted in a longitudinal center hole in the valve body, having an end cap fastened to one end of the center hole and forming an inside annular flange at the one end of the center hole; a press rod supported on the compression spring inside the center hole, having a front end extending out the valve body and an outward flange supported by the spring and stopped by the inside flange. This improvement comprises that the center hole is a through hole, with the end cap fastened to an end of the through hole opposite an inside annular flange, with the spring supported by the end cap, and the outward flange being around a rear end of the press rod.

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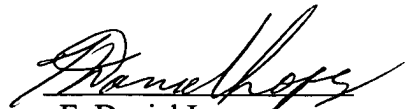
Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, preferably **accompanies** the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lewis, Takahata, McClocklin and Hung refer to fluid motors with shuttle valves.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 308-7763. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.



F. Daniel Lopez
Primary Examiner
Art Unit 3745
August 27, 1999